217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT

PERMITTEE

GTC International, Inc.
Attn: Michael M. Sargent
6401 West 65th Street
Bedford Park, Illinois 60638

Application No.: 00030004 I.D. No.: 031012AGC
Applicant's Designation: MIRRORS Date Received: March 3, 2000
Subject: Mirror Manufacturing
Date Issued: September 12, 2003 Expiration Date: September 12, 2008
Location: 6401 West 65th Street, Bedford Park

Permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of a glass coating and silk screening operation as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

Findings

1. GTC International, Inc. (GTC) has applied for a permit for its mirror manufacturing plant in Bedford Park, which it located to in 1997/1998.

2. The area in which the source is located is designated as nonattainment for ozone.

3a. This plant was a major new source subject to 35 IAC, Part 203 (Major Stationary Sources Construction and Modification (MSSCAM)) because the plant's actual VOM emissions were in excess of 25 tons/year soon after it began operation.

b. The permitted VOM emissions of this plant, as established by this permit are initially 15 tons/year. Beginning in January 2005, the 12 month rolling limit is reduced by 1/12 ton/month until January 2007 when the annual limit becomes final at 12 tons/year. As a result, the plant would no longer be a major source and VOM emissions will be less than half of the major source threshold.

4. This permit relies upon the plant's coating lines complying with the VOM standard set in 35 IAC 218.926(b)(1) which is applicable because VOM emissions of the plant exceeded 25 tons/year. The permit does not require use of the Lowest Achievable Emission Rate (LAER) because both the amount and rate of VOM emissions are being very effectively minimized.

5. This permit does not address the requirement to provide emission offsets under 35 IAC 203.302 for operation of the plant prior to issuance of this permit. The requirement for emissions offsets for prior operation of the plant and the means by which such obligation is addressed will be determined as part of a separate legal proceeding to resolve a pending enforcement case.

6. After reviewing all materials submitted by GTC, the Illinois EPA has determined that the plant will comply with all applicable Board emissions standards.

7. A copy of the application, the Illinois EPA's project summary and a draft of this permit were forwarded to a location in the vicinity of the plant, and the public was given notice and opportunity to examine this material, to submit comments, and to request and participate in a public hearing on this matter.

1.0 PLANT-WIDE CONDITIONS

VOM emissions from this plant initially shall not exceed 15.0 tons per year through calendar year 2004. Thereafter the limit shall be reduced 1/12 ton per month until January 2007 when the final limit shall become 12 tons/year.

Compliance with these limits shall be determined from a running total of 12 months of data.

2.0 UNIT SPECIFIC CONDITIONS

2.1 Glass Coating Lines

2.1.1 Description

The glass coating process includes the spray application of a silver base coat and a top coat with a separate (electric) drying area after each spray application.

2.1.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
01	Silver Base Coat/Dryer	None
02	Top Coat Application/Dryer	None

2.1.3 Applicability Provisions and Applicable Regulations

a. The “affected coating line” for the purpose of these unit-specific conditions, are the coating lines described in Conditions 2.1.1 and 2.1.2.

b. Each affected coating line is subject to 35 IAC 218.926(b)(1) which provides that:

The daily-weighted average VOM content shall not exceed 0.42 kg VOM/l (3.5 lbs VOM/gal) of coating as applied (minus water and any compounds which are specifically exempted from the definition of VOM) during any day.

c. The emissions of particulate matter into the atmosphere in any one hour period form each of the affected coating lines shall not exceed the allowable emission rates specified in the following equation [35 IAC 212.321]:

$$E = A\ (P)^{B}$$

Where:

P = Process weight rate

E = Allowable emission rate

And, for process weight rates up to 450 T/hr:

	Metric	English
P	Mg/hr	T/hr
E	kg/hr	lbs/hr
A	1.214	2.54
B	0.534	0.534

2.1.4 Non-Applicable Regulations of Concern

a. Each affected coating line complying with 35 IAC 218.926(b)(1) is not subject to 35 IAC 218.301, Use of Organic Material, pursuant to 35 IAC 218.926(b)(1), Exemption From General Rule on Use of Organic Material which excludes affected coating lines from this requirement.

b. The cleanup solvent operations are not subject to the control requirements of 35 IAC 218.926 pursuant to the exemption in 35 IAC 218.920(b)(2)(B).

2.1.5 Operational Limits

Usage of coating and thinner/cleanup shall not exceed the following limits:

		Through 2004		After 2005	
	(Lb/Gal)	(Gal/Mo)	(Gal/Yr)	(Gal/Mo)	(Gal/Yr)
Coating #1	1.14	670	8,040	509	6,108
Coating #2	3.24	225	2,700	171	2,052
Thinner/Cleanup	7.53	80	960	61	732

2.1.6 Emission Limitations

VOM emissions from the affected coating line (including oven and clean-up emissions) combined shall not exceed the following:

	VOM Emissions (Lb/Month)	VOM Emissions (Tons/Year)
Through 2004	4,000	12.5
After 2005	3,000	9.5

2.1.7 Testing Requirements

Upon request by the Illinois EPA the VOM content of coatings shall be determined according to USEPA Reference Methods 24 and 24A of 40 CFR Part 60, Appendix A and the procedures of 35 IAC 218.105 [35 IAC 218.211(a)].

This testing may be performed by the supplier of a material provided that the supplier provides appropriate documentation for such testing to the Permittee. The Permittee's records shall reflect the application and separately account for any additions of solvent. If a request for testing has not been made, the VOM content provided by the coating supplier may be used, including formulation data.

2.1.8 Monitoring Requirements

None

2.1.9 Recordkeeping Requirements

a. The Permittee shall maintain records of the following items for each affected coating line pursuant to 35 IAC 218.991(b) to demonstrate compliance with conditions of this permit:

i. The name and identification number of each coating as applied on the affected coating line;

ii. The weight of VOM per volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on each coating line;

iii. The usage of each coating, thinner and solvent, in units of pounds or gallons; and

iv. The daily-weighted average VOM content of all coatings as applied on the affected coating line in units of VOM per volume of coating (minus water and any compounds which are specifically exempted from the definition of VOM) if complying with 35 IAC 218.926(b)(2)(C)(ii).

b. The Permittee shall keep records of the following:

i. Cleaning solvent usage and VOM contents of cleaning solvents; and

ii. VOM emissions determined in accordance with condition 2.1.12.

c. The instrument or method by which the Permittee will accurately measure or calculate the volume of each coating as applied each day on the affected coating line;

2.1.10 Reporting Requirements

The Permittee shall notify the Illinois EPA of noncompliance of the affected coating line with the permit requirements within 30 days of the violation, pursuant to 35 IAC 218.991(b)(3).

2.1.11 Operational Flexibility

None

2.1.12 Compliance Procedures

a. VOM emissions shall be calculated using the following equation:

VOM Emissions = VOM Containing Material Usage x VOM Content

b. Compliance with Condition 2.1.3(b) is addressed by the testing and the recordkeeping required by Condition 2.1.7 and 2.1.9.

c. Compliance provisions addressing Condition 2.1.3(d) are not set by this permit as compliance is assumed to be achieved by the normal work practices and maintenance activities inherent in operation of an affected coating line.

d. Calculation of fuel combustion emissions from the dryers shall be determined by the emission factors listed below:

Pollutant	Natural Gas Emission Factors for Boilers (lb/ 10^6 ft^3)
NO_x	100
PM	7.6
SO_2	0.6
VOM	5.5

These are the emission factors for uncontrolled natural gas combustion in boilers, Tables 1.4-1 and 1.4-2, AP-42, Volume I, Supplement F, March, 1998.

Dryer Emissions (lb) = (Natural Gas Consumed, ft^3) x (The Appropriate Emission Factor)

2.2 Units 03 Silk Screen Printing Operation

2.2.1 Description

The silk screen printing process uses a porous screen mesh and stencil to apply ink at specific locations on the glass substrate. The stencil defines the printing image and ink is forced onto the substrate by passing a blade over the surface of the screen and stencil. Drying is performed electrically.

2.2.2 List of Emission Equipment and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
03	Conveyorized Screen Printing Line	None

2.2.3 Applicable Regulations

a. An affected silk screen process for the purpose of these unit-specific conditions is an emission unit described in Conditions 2.2.1 and 2.2.2.

b. The affected silk screening process is subject to 35 IAC 218.301, which provides that person shall cause or allow the discharge of more than 3.6 Kg/hr (8 lbs/hr) of organic material into the atmosphere from any emission unit listed in Condition 2.2.2. If no odor nuisance exists, this limitation shall apply only to photochemically reactive material [35 IAC 218.301].

2.2.4 Non-Applicable Regulations

The control requirements of 35 IAC 218.986 Other Emission Units, do not apply to the silk screening operations

because the VOM emissions of the silk screening operations and other excluded emission units are limited to below 2.5 tons of VOM per year [35 IAC 218.980(d)].

2.2.5 Operational Limits

Usage of ink/coating and thinner/cleanup shall not exceed the following limits:

	(Lb/Gal)	(Gal/Mo)	(Gal/Yr)
Ink/Coating	5.79	50	600
Thinner/Cleanup	6.65	18	216

2.2.6 Emission Limitations

Emissions of VOM from the affected silk screening operations shall not exceed 2.5 tons/year. Compliance with this annual limit shall be determined based on the emissions from the current month and the previous 11 months of data.

2.2.7 Testing Requirements

a. Upon request by the Illinois EPA, the VOM contents of inks and adhesives shall be determined according to USEPA Reference Method 24 specified in 40 CFR Appendix A, pursuant to 35 IAC 218.105(a).

b. If the Permittee wants credit for the cleaning solvents sent off-site, then the percent concentration of solvent in the waste shall be determined in accordance with USEPA Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW-846), Test Method 8260.

2.2.8 Monitoring Requirements

None

2.2.9 Recordkeeping Requirements

The Permittee shall collect and record the following information for the silk screening operations:

a. Monthly usage of ink, adhesive, and solvent in gallons.

b. Total VOM usage of ink, adhesive, and solvent in pounds per month.

c. Monthly VOM emissions calculated in accordance with Condition 2.2.12.

d. Annual usage of cleaning solvent in pounds.

e. VOM content of materials.

f. Cleaning solvent sent off-site (ton/year) with waste solvent VOM content test data.

2.2.10 Reporting Requirements

Report of Deviations

If there is an exceedance of the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.

2.2.11 Operational Flexibility/Anticipated Operating Scenarios

None

2.2.12 Compliance Procedures

Compliance with emission limits shall be determined using the formulas listed below:

Total VOM in Ink, Adhesive, and Solvent Used = VOM Emissions

VOM Usage = VOM Content x Material Usage

If you have any questions on this, please call Bob Smet at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:RPS:jar

cc: Region 1